#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):

James Andrew Davis, et al.

Serial No.:

09/915,194

Filed:

July 25, 2001

For: "ERROR CORRECTION CODING AND DECODING IN A SOLID-STATE STORAGE

DEVICE"

RE: Request for Subst

Papers

Group Art Unit:

2811

Examiner:

unknown

Our Ref.: B-4257 618971-3

Date of this paper:

April 3, 2002

VIA FACSIMILE 1-703-872-9302 (TC3700) 42 PAGES

Box Duplicate TC3700 U.S. Patent and Trademark Office P.O. Box 2327 Arlington, VA 22202-2327

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SEP 1 8 2002

Sir:

Technology Center 2100

We acknowledge receipt of the Request for Substitute Papers date  $\frac{8}{2}\frac{3/22/2002}{25/2002}$  (copy enclosed). The Request makes reference to papers filed on  $\frac{2}{2}\frac{25}{2002}$ . According to our records, no papers were filed on that date. In a spirit of cooperation, we enclose copies of papers filed on 11/8/2001. Please find enclosed a copy of the above-identified application papers, as follows:

- 1) the Request for Substitute Papers dated 3/22/2002
- postcard for Completion of Filing Requirements
- First Class Mail envelope for Completion of Requirements
- Transmittal letter for Completion of Filing Requirements with 4) Certification under 37 CFR 1.10 dated 11/8/01 (2 pages)
- Check no. 14146 in the amount of \$870.00 5)
- Notice to File Missing Parts of Non-Provisional Application 6)
- 7) Declaration/Power signed by inventor James Andrew Davis (2 pages); Declaration/Power signed by inventor Jonathan Jedwab (2 pages); Declaration/Power signed by inventors David H. McIntyre, Kenneth K. Smith, and Stewart R. Wyatt Declaration/Power signed by inventor Kenneth Graham Paterson (2 pages); Declaration/Power signed by inventor Frederick A. Perner (2 pages); Declaration/Power signed by inventor Gadiel Seroussi (2

RE: Request for Substitute Papers USSN 09/915,194 April 3, 2002 Page 2

- 8) Postcard for Assignment Recordation of one assignment
- First Class Mail envelope for Assignment Recordation
- 10) Check no. 14147 in the amount of \$40.00
- 11) Recordation Form Cover Sheet with certificate of mailing (Conveying Parties: Hewlett-Packard Limited, Jonathan Jedwah, and Kenneth Graham Paterson; Receiving Party: Hewlett-Packard Company) (2 pages)
- 12) Assignment document from Hewlett-Packard Limited, Jonathan Jedwab, and Kenneth Graham Paterson to Hewlett-Packard Company (1 page)
- 13) Postcard for Assignment Recordation
- 14) First Class Mail envelope for Assignment Recordation
- 15) Check no. 14148 in the amount of \$40.00
- 16) Recordation Form Cover Sheet with certificate of mailing (Conveying Parties: James Andrew Davis, David H. McIntyre, Kenneth K. Smith, Stewart R. Wyatt, Frederick A. Perner, and Gadiel Seroussi; Receiving Party: Hewlett-Packard Company) (2 pages)
- 17) Assignment documents (12 pages)

Respectfully submitted,

Richard P. Berg

Attorney for Applicant

Reg. No. 28,145

LADAS & PARRY

5670 Wilshire Boulevard

Suite 2100

Los Angeles, CA 90036

Telephone: (323) 934-2300

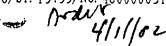
Telefax:

(323) 934-0202

I hereby certify that this correspondence is being transmitted by facsimile to the United States Patent and Trademark Office (USPTO) on the date shown below. Specifically, this correspondence is being telefaxed to the USPTO at (703) 872-9302(TC3700) on April 3, 2002.

Cheryl Liang

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# United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.O. 20221

Application Number			rw.mspto.gov	
	Filing Date	First Named Applicant	A44. D	
09/915,194	07/25/2001	Davis, James	DOCKEL	
		Davis, James	B-4257 61897	1-3

LADAS & PARRY
Suite 2100
5670 Wilshire Boulevard
Los Angeles CA 90036-5679

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**Technology Center 2100** 

MAR 2.6 2702 .REQEIVED

Title: Error correction coding and decoding in a solid-state storage device

Date Mailed:03/22/2002

# Request for Substitute Papers

The papers filed on <u>02/25/02</u> are no longer in condition to become part of the permanent records of the United States Patent and Trademark Office (USPTO) for this application (37 CFR 1.52(a)) due to the United States Postal Service sanitization process.

The USPTO requests that applicant provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a complete and accurate copy of the above-identified papers (signing and returning a copy of this notice will provide such a statement). The reply to this letter should be submitted to the USPTO by facsimile at the number indicated 703-746-4060(OIPE).

Alternatively, the reply to this letter may be hand-carried to the Customer Service Window located in Room 1B03 of Crystal Plaza Building 2, Arlington, Virginia, 22202.

The USPTO strongly prefers that the reply to this letter be submitted by facsimile. However, if applicant cannot submit the reply to this letter by facsimile (or hand-delivery), the reply may be mailed to: Box Duplicate OIPE, U.S. Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202-2327

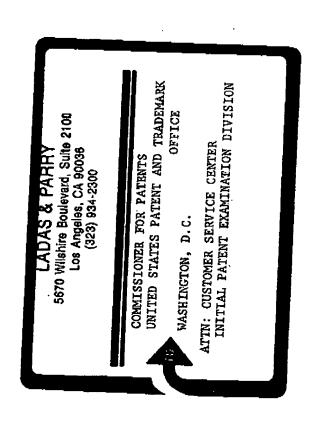
This letter is not a notice under 37 CFR 1.251. However, failure to timely replay to this notice within two (2) weeks of the date of receipt of this letter may result in the USPTO issuing a notice under 37 CFR 1.251. A copy of this notice should be included with the reply.

The enclosed papers are a complete and accurate copy of the above-identified papers
Name: Registration No.:
ignature: Date:4/3/02

To:	USPD (kl)	Our reference: B-4257 618971-3
ANI THE PATEL MAIL ROO	MMISSIONER OF PATENTS TRADEMARKS OFFICE MISTAMP HEREON ACKNOWLED OFFICE MISTAMP HEREON ACKNOWL	Date mailed: November 8, 2001  SES
Transmittal in response Missing Par fee and surc (2 pages); o	Letter with Certificate of Mailing (2 p to Notice to File Missing Parts of App ts (1 page); Check No. 14146 in the a harge: original Declaration/Power sign riginal Declaration/Power signed by in claration/Power signed by inventors Da	iges) lication; Copy of Notice to File mount of \$870.00 to cover filing ed by inventor James Andrew Dayis ventor Jonathan Jedwab (2 pages); yid H. McIntyre, Kenneth K. Smith,
Kenneth Gr. Frederick A Seroussi (2	R. Wyatt (2 pages); original Declaration Paterson (2 pages); original Declaration. Perner (2 pages); original Declaration pages) and this postcard.	laration/Power signed by inventor
Jam FOR: "ERI	nes Andrew DAVIS, et al. ROR CORRECTION CODING ANI G IN A SOLID-STATE STORAGE I	STAMP DEVICE"
SERIAL N	UMBER: 09/915,194	



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FROM LADAS & PARRY - L. A. 13239340202 IN THE UNITED STATES PATENT AND TRADEMARK OFFICE Applicant(s): Group Art Unit: 2811 James Andrew DAVIS, et al. Serial No.: 09/915,194 Filed: July 25, 2001 Examiner: unknown Our Ref.: B-4257 618971-3 For: "ERROR CORRECTION CODING AND DECODING IN A SOLID-STATE STORAGE Date of this paper: DEVICE \* November 8, 2001 Commissioner for Patents United States Patent and Trademark Office Washington, D.C. 20231 Customer Service Center Initial Patent Examination Division Sir: COMPLETION OF FILING REQUIREMENTS Responsive to office letter dated 09/10/2001 (copy attached). DECLARATION OR OATH Please find enclosed the Declaration/Power signed by inventor [X]James Andrew Davis. Please find enclosed the Declaration/Power signed by inventor [X]Jonathan Jedwab.

- Please find enclosed the Declaration/Power signed by inventors [X]David H. McIntyre, Kenneth K. Smith, and Stewart R. Wyatt.
- [X]Please find enclosed the Declaration/Power signed by inventor Kenneth Graham Paterson.
- Please find enclosed the Declaration/Power signed by inventor Frederick A. Perner. [X]
- [X]Please find enclosed the Declaration/Power signed by inventor Gadiel Seroussi.

AMENDMENT OF CLAIMS Please cancel claims

inclusive Please find enclosed an amendment deleting multiple dependencies NOTE: The filing fees, fees for and surcharge fees listed below are reduced by 50% where proof of a small entity status is established on or before the date the fee is paid. If the full fee is paid but a verified statement is filed within two months of the date of payment of the first fee then the excess fee paid will be refunded on request. Notice of January 20, 1983. 1027 TMOG 114.

Filing fee (37 CFR 1.16(a) - 740.00) [X] \$740.00 (small entity -370.00[ ] Fees for claims Independent claim in excess of 3 (37 CFR 1.16(b) - 84.00) (small entity -42.00)[ ] Claims in excess of 20 (37 CFR 1.16(c) - 18.00) (small entity - 9.00)

CERTIFICATE OF MAILING (37 CFR 1.8a) I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the:

Commissioner for Patents United States Patent and Trademark Office Washington, D.C. 20231

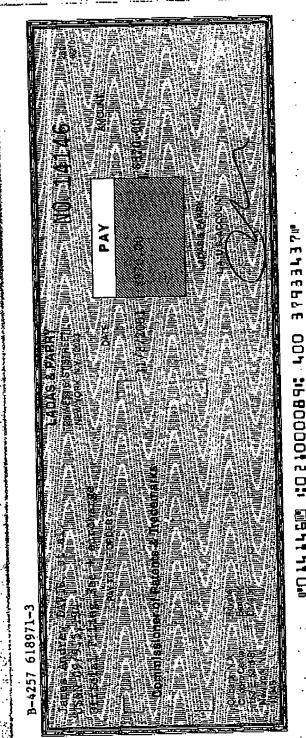
Customer Service Center

Initial Patent Examination Division

Date: November 8. 2001

<u>Karyn Lao</u> (Typed or printed name of person mailing paper)

	[] Multiple dependent claim(s) (37 CFR 1.16(d) - 260.00) (small entity - 130.00)
(x)	Surcharge fees
	[X] Late payment of filing fee (37 CFR 1.16(e) - 130.00) (small entity - 65.00)
	AND
,	[X] Late filing of declaration or oath (37 CFR 1.16(e) - 130.00) \$130.00 (small entity - 65.00)
[ ]	Petition fee for filing by person not the inventor (37 CFR 1.17(h) \$120.00)
[ ]	Recording assignment
[ ]	(37 CFR 1.21(h)(i) 40.00) Attached is an assignment to
	Total fees: <u>\$870.00</u>
	SMALL ENTITY STATUS
[ ]	A verified statement that this filing is by a small entity is
	[ ] Attached [ ] Already filed on
	PAYMENT OF PEES
[X]	Enclosed is a check in the amount of \$870.00
[ ]	Charge Account No. 12-0415 in the amount of  A duplicate of this request is attached.
NOTE:	Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. $37\ \text{CFR 1.22(b)}$ .
	AUTHORIZATION TO CHARGE ADDITIONAL FEES
[ <b>x</b> ]	The Commissioner is hereby authorized to charge the following additional fees which may be required or credit any overpayment to Account No. 12-0415.
	[X] 37 CFR 1.16 (filing fees and presentation of extra claims)
	[X] 37 CFR 1.17 (application processing fees)
	[ ] 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b).
NOTE:	37 CFR 1.28(b) requires "Notification of any change in status resulting in loss of entitlement to small entity status must be filed in the application prior to paying issue fee."
al na	Richard P. Berg Attorney for the Applicant
	Registration No.: 28,145
	c/o LADAS & PARRY 5670 Wilshire Boulevard, Suite 2100 Los Angeles, California 90036-5679
	Telephone No.: (323) 934-2300 Facsimile No.: (323) 934-0202



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#### United States Patent and Trademark Office

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 2023
WWW.usplo.gov

APPI.ICATION NUMBER

FILING/KECKIPT DATE

FIRST NAMED APPLICANT

ATTORNEY DOCKET NUMBER

09/915,194

07/25/2001

James Andrew Davis

B-4257 618971-3

**CONFIRMATION NO. 5298** 

FORMALITIES LETTER

'OC000000006534579'

LADAS & PARRY Suite 2100 5670 Wilshire Boulevard Los Angeles, CA 90036-5679

Date Mailed: 09/10/2001

### NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given TWO MONTHS from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
   Applicant must submit \$ 710 to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).
- The oath or declaration is unsigned.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.
- The balance due by applicant is \$ 840.

A copy of this notice MUST be returned with the reply.

Customer Service Center

Initial Patent Examination Division (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE

#### DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432 -1

As a below named inventor, I h	ereby declare that:
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tion(s) for patent or (s) certificate having
UNIDER 35 U.S.C. 119
NO:
NO:
application(s) listed
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s) listed below and, is application in the to disclose material ing date of the prior
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Received from < 13239340202 > at 4/3/02 6:56:45 PM [Eastern Standard Time]ntor(s) Signature(s))

Page 1 of 2

# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (continued)

ATTORNEY DOCKET NO. 10012432 -1

Full Name of # 2 joint inver	ntor: Jonathan Jedwab	Citizenship: GB
Residence:	Flat 17 Parklands 27 Tyndalls Park F	Road Bristol, England B58 IPQ
Post Office Address:	Same as residence	
Inventor a Signature	Dat	е
Full Name of # 3 joint inver	tor: David H. McIntyre	Cătizenship: US
Residence:	13076 W Woodspring Street Bolse,	ID 83713
Post Office Address:	Same as Residence	
Inventor's Signature	Dat	
	Val	<del>u</del>
Full Name of # 4 Joint Inven	tor: Kenneth Graham Paterson	Citizenship: GB
Residence:	12 Cotham Side Cotham, Bristol BS6	
Post Office Address:	Same as residence	
Inventor's Signature	Dat	9
Full Name of # 5 Joint inven	tor: Frederick A Perner	Citizenship: US
Residence:	3234 Ramona St. Palo Alto California	94306
Post Office Address:	Same As Residence	
иментог в западите		
	Date	•
Full Name of # 6 joint invent	ton Cadial Canana	
Residence:	1123 Milky Way Cupertino CA 950	Citizenship:US
Post Office Address:		17
rost Ombe Address:	Same as residence	
inventor's Signature	Date	
Full Name of # 7 joint invent	or: Kenneth K Smith	Citizenship:US
Residençe:	11776 W Rader Dr Boise, ID 83713	
Post Office Address:	Same as residence	
Inventor's Signature	Date	
Full Name of # 8 joint invent	or: Stewart R. Wyatt	Citizenship:US
Residence:	10476 Barnsdale Dr Boise, ID 83704	
Post Office Address:	Same as residence	
Inventor's Signature		
· · · · · · · · · · · · · · · · · · ·	Date	

(WED) 4. 3'02 15:59/ST. 15:55/NO. 4800000311 P 12

PATENT APPLICATION

#### DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

Received from < 13239340202 > at 4/3/02 6:56:45 PM [Eastern Standard Time]

ATTORNEY DOCKET NO. 10012432 -1

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As a helow	named inventor.	Lhoroby	deniare that	
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My residence/post office address and citizenship

my residence/posi	corrice add	iress and citizenship are	as stated below nex	ct to my name;
a patent is sought	on the inv	ention entitled:	the subject matter	isted below) or an original, first which is claimed and for which
Error Correction C	oding And	Decoding In A Solid-Stat	e Storage Device	
the specification of	f which is	attached hereto unless t	he following box is	checked:
(X) was filed (			_	International Application
Number <u>0</u>	9/915194	and was amend	ed on	(if applicable).
micioand the ciam	is. as ame	viewed and understood nded by any amendmen n is material to patentabil	I(\$) referred to abo	e above-identified specification, ve. I acknowledge the duty to CFR 1.56.
Foreign Application(s) a				
miscurvitor continuone b	DIGO DEIOM SI	its under Title 35, United Stat nd have also identified below a ation on which priority is clain	DV fotolog santiantian fa	any foreign application(s) for patent or r patent or r patent or inventor(s) certificate having
COUNTRY	<del></del> _	APPLICATION NUMBER	DATE FILED	PRIORITY CLAIMED UNDER 35 U.S.C. 119
				YES: NO:
				YES: NO:
Provisional Application				
I hereby claim the bene below:	efit under Title	e 35, United States Code Sect	ion 119(e) of any United	States provisional application(s) listed
		APPLICATION NUMBER	FILING DATE	<u> </u>
				<b>-</b>
manner provided by the information as defined in	first paragram Title 37. Co	oh of Title 35. United States (	on is not disclosed in th Code Section 112, tack! tion 1.56(a) which conve	States application(s) listed below and, e prior United States application in the nowledge the duty to disclose material red between the filing date of the prior
AFFLICATION NU		FILING DATE		perlented/pending/abandoned)
POWER OF ATTORNEY: As a named inventor, I oustness in the Patent an	hereby appo	int the following attorney(s) office connected therewith:	and/or agent(s) to prose	ecute this application and transact all
	mer Number	022879	Place Customer Number Bar Code Label nere	
Send Correspondence HEWLETT-PACKARD	e to:		Direct Telephon	e Calls To;
Intellectual Property	Administration	n	Richard P Berg.	Reg no 28,145
P.O. Box 272400 Fort Collins, Colorado	80527-240	0	(323) 934 230	
with the knowledg	e that will oth under:	Iful false statements a	d the like so mad of the United State	re true and that all statements these statements were made de are punishable by fine or tes Code and that such willful at Issued thereon.
ull Name of Inventor:	lames Andı	rew Davis	Citizenship: US	
tesidence:	2214 Grain	nmill Court Richmond, V.	A 23233 USA	
	Same as R			
•				

# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (continued)

ATTORNEY DOCKET NO. 10012432 -1

Full Name of # 2 joint invent	or: Jonathan Jedwab		Citizenship: G8
Residence:	Flat 17 Parklands 27 Tyndalis P	ark Road B	
Post Office Address:	Same as residence		\$ 35
Inventor's Signature	Sedwei	Date	Oct 2001
Full Name of # 3 joint inventor	जः David H. McIntyre		Citizenship: US
Residence:	13076 W Woodspring Street Bo	oise, ID 83	713
Post Office Address:	Same as Residence		
Inventor's Signature		Date	
Full Name of # 4 joint invento	r: Kenneth Graham Paterson		Citizenship: GB
Residence:	12 Cotham Side Cotham, Bristo	BS6 5TP	Great Britain
Post Office Address:	Same as residence		
Inventor's Signature		Date	
Full Name of # 5 Joint Invento	Frederick A Perner		Citizenship: US
Residence:	3234 Ramona St. Palo Alto Calif	fornia 9430	06
Post Office Address:	Same As Residence		
Inversor & Signature		Date	
Full Name of # 6 joint invento	r: Gadiel Seroussi		Citizenship: US
Residence;	1123 Milky Way Cupertino CA	95014	
Post Office Address;	Same as residence		
inventor's Signature	·	Date	
Full Name of # 7 joint inventor	Kenneth K Smith		Cittzenship:US
Residence;	11776 W Rader Dr Boise, ID 83	713	
Post Office Address:	Same as residence		
inventor's Signature		Date	
Full Name of # 8 joint inventor	Stewart R. Wyatt		Citizenship:US
Residence:	10476 Barnsdale Dr Boise, ID 83	3704	
Post Office Address:	Same as residence		
Inventor s Sigresture		Date	

Page 1 of -2

DECLARATION FOR PATENT		OF ATTORNEY	ATION	EY DOCKET NO. 1001	2432 -1
As a below name	ed inventor. I he	ereby declare that:		<u></u>	~ · · · · · · · · · · · · · · · · · · ·
My residence/po:	st office addres	s and citizenship are	as stated below nex	t to my name:	
I believe I am the and joint inventor a patent is sough	e original, first r (if plural name nt on the invent	and sole inventor (if as are listed below) of ion entitled:	only one name is li of the subject matter	sted below) or an	original, first nd for which
Error Correction	Coding And Dec	oding in A Solid-Sta	te Storage Device		
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including the clai	ms, as amende	id by any amendmei	the contents of the at(s) referred to above lity as defined in 37	ve lacknowledne	pecification, the duty to
Inventor(s) certificate	priority benefits u listed below and h	nder Title 35. United Sta	tes Code Section 119 of Bhy foreign application for med:	any foreign application(; patent or Inventor(s) ce	i) for patent or rtificate having
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Provisional Application			a paris - promote - promot		
I hereby claim the bea below:	nefit under Title 35	, United States Code Sec	tion 119(e) of any United	States provisional appli	cation(s) listed
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U. S. Priority Claim					
manner provided by the information as defined	natter or each or le first paragraph of in Title 37. Code of	ine claims of this applicat f Title 35 United States	ction 120 of any United ( tion is not disclosed in the Code Section 112, I acknown tion 1.58(a) which occurripplication:	prior United States app	lication in the
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Participant in the rate of	I hereby appoint to and Trademark Offi	CE CONNESTED (USIBALIV)	and/or agent(s) to prosed	cute this application and	d transact all
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intellectual Property P.O. Box 272400			Richard P Berg,	Reg no 28,145	
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with the knowled imprisonment, or be false statements m	ge that willful ooth, under Sec pay jeopardize to	false statements a tion 1001 of Title 1 be validity of the app	y own knowledge enue; and further that not the like so mad 8 of the United Statuscion or any patent	these statements vie are punishable (	vere made
Full Name of Inventor:	James Andrew	Davis	Citizenship: US		
Residence:	2214 Grainmi	il Court Richmond, V	A 23233 USA		***************************************
Post Office Address:	Same as Resi	dence			

(Use Page Two For Additional Inventor(s) Signature(s))

Rev 06/01 (DecPwr)

**DECLARATION AND POWER OF ATTORNEY** 

#### ATTORNEY DOCKET NO. 10012432 -1 FOR PATENT APPLICATION (continued) Full Name of # 2 joint inventor: Jonathan Jedwab Citizenship: GB Flat 17 Parklands 27 Tyndalis Park Road Bristol, England B58 IPQ Residence: Same as residence Post Office Address: Inventor's Signature Date Full Name of # 3 joint inventor: David H. McIntyre Citizenship: US 13076 W Woodspring Street Bolse, ID 83713 Same as Residence Full Name of # 4 joint inventor: Kenneth Graham Paterson Citizenship; GB 12 Cotham Side Cotham, Bristol SSS 5TP Great Britain Residence: Same as residence Post Office Address: INVOICE'S SIGNALINE Date Full Name of # 5 joint inventor: Frederick A Perner Citizenship: US 3234 Ramona St. Palo Alto California 94306 Residence: Same As Residence Post Office Address: INVERTOR & SIGNATURE Date Full Name of # 6 joint inventor: Gadle! Seroussi Citizenship: US 1123 Milky Way Cupertino CA 95014 Residence: Post Office Address: Same as residence BREMSE & SECTION Date Full Name of # 7 joint inventor: Kenneth K Smith Citizenship:US 11776 W Rader Dr Bolse, ID 83713 Rasidence: Post Office Address: Same as residence Oct Full Name of # 8 joint inventor, Stewart R. Wyatt Citizenship:US 10476 Barnsdale Dr Bolse, (D. 83704 Residence: Post Office Address: Same as residence

22 Oct 200

(WED) 4. 3'02 16:00/ST. 15:55/NO. 4800000311 P 16

				PATE	NT APPLICATI
DECLARATION FOR PATENT	N AND POW APPLICATION	VER OF ATTORNEY	ATTOR	NEY DOCKET NO.	10012432 -1
As a below nam	ed inventor,	I hereby declare that:			
My residence/po	st office ad	dress and citizenship a	re as stated below ne	xt to my name:	
and joint invento	e original, † r (if plura) n it on the inv	Irst and sole inventor : ames are listed below) rention entitled:	(if only one name is i of the subject matter		an original, filed and for whi
Error Correction	Coding And	Decoding In A Solid-St	tate Storage Device		
the specification	of which is	attached hereto unless	the following box is	checked:	
(X) was filed	on Jul 25,	2001 as US Ap	plication No. or PCT	International Ap	plication
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Foreign Application(s) I hereby claim foreign Inventor(s) certificate	and/or Claim of the priority benefits the priority benefits the priority and the priority a	its under Title 35, United St	bility as defined in 37	CFR 1.56.	dge the duty
a filing date before the	of the applic	nd have also identified below ation on which priority is ch	any foreign application for aimed:	r patent or inventor	(s) certificate havi
COUNTRY	<u> </u>	APPLICATION NUMBER	DATE FILED	PRIORITY CLAIMED	UNDER 35 U.S.C. 119
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Provisional Application				YES:	NO:
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	hereby appoin	nt the following attorney(s) Office connected therewith:	and/or agent(s) to prosec	cute this application	and transact all
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Intellectual Property / P.O. Box 272400	Administration		Richard P Berg, J	Reg no 28 145	1
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il Name of Inventor; <u>j</u>	ames Andre	w Davis	Citizenship: US		
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# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (continued)

ATTORNEY DOCKET NO. 10012432 -1

Full Name of # 2 joint invent	x:Jonathan Jedwab	Citizenship: GB
Residence:	Flat 17 Parklands 27 Tyndalls Park	Road Bristol, England B58 IPQ
Post Office Address:	Same as residence	
Inventor's Signature		ate
Full Name of # 3 joint invento	x: David H. McIntyre	Citizenship: US
Residence:	13076 W Woodspring Street Boise,	ID 83713
Post Office Address:	Same as Residence	
Inventor's Signature	Da	xt <del>e</del>
Full Name of # 4 joint invento	Kenneth Graham Paterson	Citizenship: GB
Residence:	1.2 Cotham Side Cotham, Brietol BS	
Post Office Address:	Same as residence (3 VI CAR A	20/a/2001 TWILSTER
Full Name of # 5 joint invento	r: Frederick A Perner	Citizenship: US
Residence:	3234 Ramona St. Palo Alto Californ	ia 94306
Post Office Address:	Same As Residence	
liwentor's Signature	Da	te
Full Name of # 6 joint inventor	r: Gadiel Seroussi	Citizenship: US
Rasidence:	1123 Milky Way Cupertino CA 950	014
Post Office Address:	Same as residence	
firwantor a signature	Dat	0
Full Name of # 7 Joint Inventor		Citizenship:US
Residence:	11776 W Rader Dr Boise, ID 83713	
Post Office Address:	Same as residence	
и <del>тенког с Хід</del> пакше	Det	е
Full Name of # 8 joint inventor	Stewart R. Wyatt	Citizenship:US
Residence:	10476 Barnsdale Dr Boise, ID 83704	4
Post Office Address:	Same as residence	
iventor's Signature	Date	

Page 1 of 2

FOR PAYENT	I AND POW APPLICATIO	ER OF ATTORNEY N	ATTORNI	EY DOCKET NO. 10012432 -1
As a below name	ed inventor	I hereby declare that:	· · · · · · · · · · · · · · · · · · ·	
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				to my name; sted below) or an original, firs
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Error Correction	Coding And	Decoding In A Solid-Sta	ite Storage Device	
		attached hereto unless		
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incivumo ine ciai	ms, as ame	viewed and understood nded by any amendmen is material to patentab	11/g) referred in above	above-identified specification, e. I acknowledge the duty to CFR 1.56.
Foreign Application(s)				
I hereby claim foreign inventor(s) certificate	priority benefi listed below an	ts under Title 35. United Sta	any foreign application for :	ony foreign application(s) for patent or patent or inventor(s) certificate having
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Provisional Application				
I hereby claim the bed below:	nefit under Title	e 35. United States Code Sec	tion 119(e) of any United	States provisional application(s) listed
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s a named inventor	I hereby spnoi	int the following attornay(s) Office connected therewith:	and/or agent(a) to prosecu	ute this application and transact all
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P.O. Box 272400				W 10 20,143
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ith the knowled	ge that will oth, under S	ful faise statemente a	ue; and further that t nd the like so made 8 of the Hoited State	true and that all statements have statements were made are punishable by fine or s Code and that such willful issued thereon.
Ill Name of Inventor:	James Andr	ew Davis	Chibenship: US	
sidence:	2214 Grain	mill Court Richmond, V	A 23233 USA	
est Office Address:	Same as R	esidence		
rentor's Signature			Date	

(Use Page Two For Additional Inventor(s) Signature(s))

# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (continued) Full Name of # 2 Joint Inventor: Jonathan Jedwab Residence: Flat 17 Parklands 27 Ty

ATTORNEY DOCKET NO. 10012432 -1

Full Name of # 2 joint inve	entor: Jonathan Jedwab		Citizenship; GB
Rasidençe:	Flat 17 Parklands 27 Tyndalls	Park Road	Bristol, England B58 IPQ
Post Office Address:	Same as residence		
inversor s Signature		Date	
Full Name of # 3 joint inve	entor: David H. Mcintyre		Citizenship: US
Residence:	13076 W Woodspring Street	Boise, ID	83713
Post Office Address:	Same as Residence		
Inventor's Segrature		Date	
Full Name of # 4 joint inve	ntor. Kenneth Graham Paterson 12 Cotham Side Cotham, Bris	tol BSE ST	Citizenship; GB
Post Office Address:	Same as residence	10, 000 31	P Great Britain
•			
Inventor s Signature		Date	
Full Name of # 5 Joint inver Residence: Post Office Address:	3234 Ramona St. Palo Alto Ca Same As Residence	alifornia 94	
UNVERTIGATE STREET LAND	E. C. Ilener	Date	Sept 26,2001
Full Name of # 6 joint inver	to: Gadieł Seroussi		Citizenship:US
Residence:	1123 Milky Way Cupertino CA	95014	
Post Office Address:	Same as residence		
inVernol's Signatūre		Date	
Full Name of # 7 joint inven	tor: Kenneth K Smith		Cktzenship:US
Residence:	11776 W Rader Dr Boise, ID 8	3713	
Post Office Address:	Same as residence		
inventor s Signators		Date	
Full Name of # 8 joint invent	o: Stewart R. Wyatt		Citizenship.US
Residence:	10476 Barnsdale Dr Boise, ID	B3704	onson to the control of the control
Post Office Address:	Same as residence		
IVERIO S SIGNATURA		Date	

#### PATENT APPLICATION

DECLARATION AND POW	ER OF	ATTORNEY
FOR PATENT APPLICATION	ON.	, , , , , , , , , , , , , , , , , , ,

ATTORNEY BOCKET NO. 10012432 -1

	4 m 1 4m 1 m 1 m 2 m 2 m 1 m	
As a below	named inventor. I	hereby declare that:

My residence/post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention settled:

The specification (X) was filed		ecoding In A Solid-Stat		
(X) was filed	of which is at	tached hereto unless t	he following box is	checked:
	on Jul 25, 20	001 as US Appl	ication No. or PCT	International Application
Number	09/915194	and was amend	ed on	(if applicable),
		ed by any amendmen material to patentabil		ne above-identified specification ove. I acknowledge the duty of CFR 1.56.
Foreign Application(s	) and/or Claim of F	oreign Priority		
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s a named inventor, issues in the Patent Custo Send Corresponder HEWLETT-PACKAR Intellectual Property	I hereby appoint and Trademark Officer Number (Contract)  Contract Number (Contract)  Contract Number (Contract)  Contract Number (Contract)		Place Customer Number Bar Code Label here Direct Telephor	ne Calls To: , Reg no 28,145
Send Correspondent  Send Correspondent  HEWLETT-PACKAR  Intellectual Property P.O. Box 272400  Fort Collins, Colora  thereby declare that de on informati in the knowled	I hereby appoint and Trademark Off offiner Number (contract to contract to con	nts made herein of my are believed to be tru	Place Customer Number Bar Code Label here  Direct Telephor Richard P Bergs (323) 934 230  own knowledge as e; and further that d the like so mas	re true and that all statements these statements were made de are punishable by fine or
Send Correspondent HEWLETT-PACKAR Intellectual Property P.O. Box 272400 Fort Collins, Coloration of the knowled prisonment, or bise statements m	I hereby appoint and Trademark Off office to: to COMPANY Administration do 80527-2400 at all statemer on and belief ge that willful ooth, under Secretary jeopardize t	nts made herein of my are believed to be trul false statements and ction 1001 of Title 18 he validity of the appli	Place Customer Number Bar Code Label here  Direct Telephor Richard P Berga (323) 934 230  own knowledge at e; and further that d the like so ma of the United Stat cation or any pater	Reg no 28,145  The true and that all statements these statements were made de are punishable by fine or tes Code and that such willful it issued thereon.
Send Correspondent HEWLETT-PACKAR Intellectual Property P.O. Box 272400 Fort Collina, Coloral hereby declare thade on information the knowled prisonment, or be	I hereby appoint and Trademark Off office to: 10 COMPANY Administration do 80527-2400 lat all statemer on and belief ge that willful both, under Secretary jeopardize t	nts made herein of my are believed to be tru false statements and ction 1001 of Title 18 he validity of the appli	Place Customer Number Bar Code Label here  Direct Telephor Richard P Bergs (323) 934 230  own knowledge as e; and further that d the like so mas of the United Stat cation or any pater	Reg no 28,145  The true and that all statements these statements were made de are punishable by fine or tes Code and that such willful it issued thereon.
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# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (continued)

ATTORNEY DOCKET NO. 10012432 -1

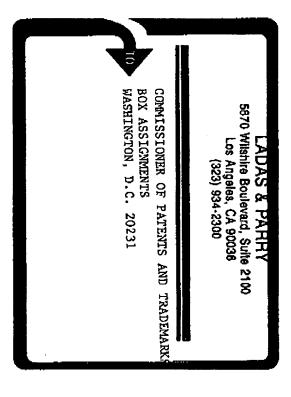
Full Name of # 2 joint	nventor: Jonathan Jedwab	Çitizenship: GB	
Rasidenca:	Flat 17 Parklands 27 Tyndalls Par	k Road Bristol, England B58 IPQ	
Post Office Address:	Same as residence		
Inventor's Signature			
		Date	
Full Name of # 3 joint in	wantor: David H. McIntyre	Citizenship: US	
Rosidance:	13078 W Woodspring Street Bols		
Post Office Address:	Same as Residence		
inventor's Signature			
•	·	Date	
Full Name of # 4 joint in	ventor: Kenneth Graham Paterson	Chlorobin CD	
Residence:	12 Cotham Side Cotham, Bristol B	Citizenship: GB	
Post Office Address:	Same as residence	- var oron chant	
Inventor's Samature			
		Pate	
Full Name of # 5 joint im	ventor: Frederick A Perner	Market and Admin	
Residence:	3234 Ramona St. Palo Alto Californ	Chizenship: US	
Post Office Address:	Same As Residence	102 94308	
Inventor's signature	D	ale	······································
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	entor: Gadiel Seroussi	Citizenahlp: US	
Residence:	1123 Milky Way Cuperlino CA 95	014	
Post Office Address:	Same as residence		
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	Da	ke / /	
Full Name of # 7 joint invi	entor: Kenneth K Smith	Citizenship:US	
Residence:	11776 W Rader Dr Boise, ID 83713		
Post Office Address:	Same as residence		
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	Das	to .	
Full Name of # 8 joint inve	ntor: Stewart R. Wyatt	Citizenship:US	
Residence:	10476 Barnsdale Dr Boise, ID 8370		
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Rev 06/01 (DecPwr)

(Use Page Ywo For Additional Inventor(s) Signature(s))

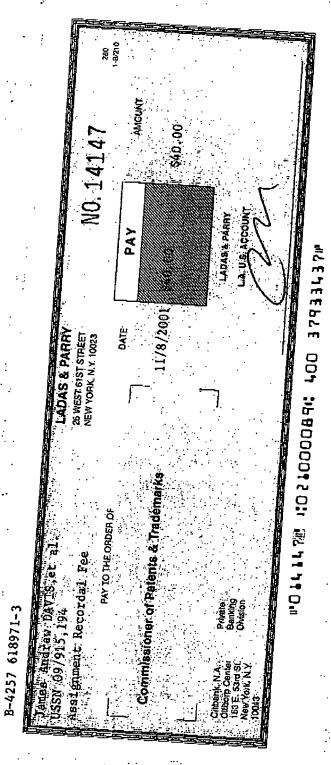
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FOR: "ERI	ROR CORRECTION CODING AN G IN A SOLID-STATE STORAGE	D DEVICE"
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U.S. Department of Commerce Patent and Trademark Office

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the Honorable Commissioner of Patents and Trademarks: Please recor	d the attached original documents or copy thereof.			
Name of conveying party(les):	Name and address of receiving parties:			
Hewlett-Packard Limited Jonathan Jedwab	Name: Hewlett-Packard Company			
Kenneth Graham Paterson	Internal Address:			
Iditional name(s) of conveying parties attached? [] YES [X] NO				
Nature of conveyance: [X] Assignment [ ] Merger	Street Address: 3000 Hanover Street			
[] Security Agreement [] Change of Name	City: Palo Alto State: California Zip: 94304 Country: U.S.A.			
[X] Other Assignment by operation of law	Additional name(s) & address(es) attached? []YES [X]NO			
Execution Dates: October 29, 2001				
Application number(s) or patent number(s):				
If this document is being filed together with a new application, the ex	xecution date of the application is:			
A. Patent Application No(s).: 09/915,194	B. Patent No(s).:			
Additional numbers a	ttached? [] YES [X] NO			
Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of application and patents involved: [ 1 ]			
Richard P. Berg ne: LADAS & PARRY	7. Total fee 937 CFR 3.41)\$ 40.00			
mal Address:	[X] Enclosed			
et Address: 5670 Wilshire Boulevard, #2100	Any additional fees which may be required are			
: Los Angeles State: CA Zip: 90036	[X] Authorized to be charged to deposit account			
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Statement and signature.  To the best of my knowledge and belief, the foregoing in attached copy is a true copy of the original document.				
Reg. No. 42,529  Reg. No. 42,529  Across A. Schmitt  Across A. Schmitt  Across A. Schmitt  Signature  Signature	24.6			
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lished by THE BUREAU OF NATIONAL AFFAIRS, INC., W	ashington, D.C. 20037			
E PAGE 2 FOR CERTIFICATE OF MAILING)				

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#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first-class mail in an envelope addressed to:

Commissioner of Patents and Trademarks Box Assignments Washington, D.C. 20231, on <u>November 8, 2001</u>

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USSN 09/915;194: B-4257 618971-3

#### ASSIGNMENT

WHEREAS, Hewlett-Packard Limited (an English Company of Bracknell, England) is, by operation of Section 39 of the United Kingdom Patents Act of 1977 relating to employee inventions, a joint first owner of the invention entitled:

Error Correction Coding and Decoding in a Solid-State Storage Device

devised by:

James A. Davis, Jonathan Jedwab, David H. McIntyre, Kenneth Graham Paterson, Frederick A. Perner, Gadiel Scroussi and Kenneth K. Smith, Steward R. Wyatt

NOW, THEREFORE, in accordance with an Agreement between Hewlett-Packard Limited and Hewlett-Packard Company (a Delaware corporation having its principal place of business in Palo Alto, California), Hewlett-Packard Limited hereby perfects the assignment to Hewlett-Packard Company, its successors and assigns, of its share of (a) the right to file and prosecute an application for Letters Patent for the above identified invention in each country worldwide, including, in particular, the Letters Patent for United States Patent Application entitled:

#### Error Correction Coding and Decoding in a Solid-State Storage Device

and executed by the below named inventors on the indicated dates

executed by Jonathan	Jedwah	on 1 October 2001
executed by Kenneth	Graham Paterson	on 20 September 2001
executed by		on
executed by		on
executed by		on

and (b) the right to claim any and all priority rights, especially from the first-filed patent or utility model applications, relative to the above-identified invention, as well as (c) the right to obtain Letters Patents in each country and the right, title and interest in such Letters Patents as consistent with the Agreement between Hewlett-Packard Limited and Hewlett-Packard Company.

IN WITNESS WHEREOF, this Assignment is executed by a duly authorized representative of Hewlett-Packard Limited

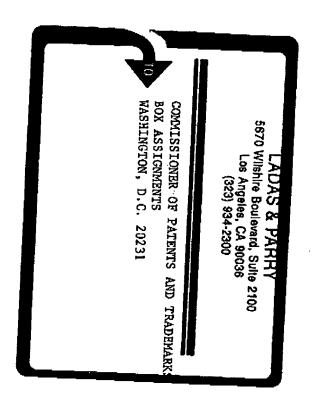
Bv:

Richard A. Lawrence

Title: Senior IP Attorney

29 Och L 2001

•• .	To: USPD (kl)	Our reference: B-4257 618971-3
	FROM: COMMISSIONER OF PATENTS AND TRADEMARKS	Date mailed: November 8, 2001
•	THE PATENT AND TRADEMARK OFFICE MAIL ROOM STAMP HEREON ACKNOWLEDGES MAIL ROOM STAMP HEREON ACKNOWLEDGES RECEIPT OF: Check No. 14148 for \$40.00; Recordation Form Cover Sheet with Certificate of Mailing (Recordation Form Cover Sheet with Certificate	<u>2 pages):</u>
: .	IN CONNECTION WITH: James Andrew DAVIS, et al.	STAMP
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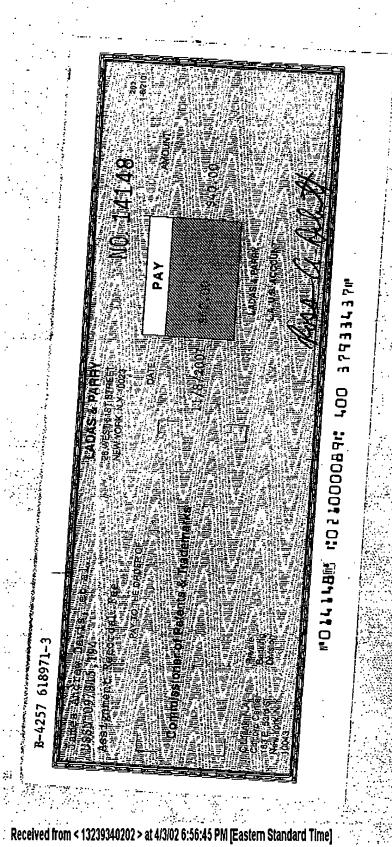


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Page 1 of 2

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the Honorable Commissioner of Patents and Trademarks: Please recor	d the attached original documents or copy thereof.
Name of conveying party(ies):	2. Name and address of receiving parties:
James Andrew Davis	
David H. McIntyre	Name: Hewlett-Packard Company
Kenneth K. Smith	Internal Address:
Stewart R. Wyatt	
Frederick A. Perner Gadiel Seroussi	Street Address: 3000 Hanover Street
Gadiei Seroussi	Order Address Street
ditional name(s) of conveying parties attached? [] YES [X] NO	
Nature of conveyance:	City: Palo Alto State: California
[X] Assignment [] Merger	Zip: 94304 Country: U,S,A,
	Additional name(s) & address(es) attached? [[YES [X]NO
[] Security Agreement [] Change of Name	·
[] Other	
aution Date(s) September 27, 2001 by James Andrew Davis	
October 23, 2001 by David H. McIntyre	•
October 18, 2001 by Kenneth K, Smith	
October 22, 2001 by Stewart R, Wyatt September 26, 2001 by Frederick A, Perner	
September 14, 2001 by Gadiel Seroussi	
Application number(s) or patent number(s):	
If this document is being filed together with a new application, the ex	recution date of the application is:
A. Patent Application No(s).: 09/915,194	B. Patent No(s).:
Additional numbers a	ttached? [] YES [X] NO
Name and address of party to whom correspondence	6. Total number of application and patents involved: [1]
concerning document should be mailed: Richard P. Berg	7. Total fee 937 CFR 3.41)\$ 40.00
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To the best of my knowledge and belief, the foregoing in	nformation is true and correct and any
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PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432 -1

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Fort Collins, Colorado 80527-2400

#### ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD COMPANY, a Delaware corporation having its principal place of business in Palo Alto, California, (hereinafter HP), in furtherance of my/our obligations to HP, and do hereby assign and transfer to HP, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Letters Patent of the United States entitled:

Error Correction Coding And Decoding In A Solid-State Storage Device

Filing date: 25 July 2001	Application No.: 09/915,194
Letters Patent, and any and all Letters Pa	s) set forth therein, and any and all continuations, and renewals of and substitutes for said application for said tent of the United States and of countries foreign thereto and any reissues, or reexaminations, or extensions of said
of the term or terms for which said Letters	plications in my/our name for Letters Patent in any country, s, assigns, nominees or legal representatives, to the full end Patent respectively may be granted, reissued or extended, a been held and enjoyed by me/us had this assignment, and
further covenant and agree that I/we will, execute and deliver all such papers as minvention(s) or improvement(s), said applicat nominees or legal representatives, and I/we facts respecting said invention(s) or improve in any legal proceedings, to sign all law continuations, C-I-P's, reissue and foreign all generally to do everything possible to representatives to obtain and enforce for in	ave full right to convey the entire interest herein assigned, not execute any agreement in conflict herewith, and I/we each time a request is made, and without undue delay, ay be necessary or desirable to perfect the title to said ion and said Letters Patent, to HP, its successors, assigns, agree to communicate to HP, or to its nominee, all known ement(s), said application and said Letters Patent, to testify virul papers, to execute all disclaimers and divisionals, opplications, to make all rightful oaths and declarations, and aid HP, its successors, assigns, nominees and legal its or their own benefit, proper patent protection for said countries provided the expenses which may be incurred by ance are paid by HP;
patents on applications as aforesaid, to issuance any and all Letters Patent for said inventions	the Commissioner of Patents and Trademarks of the United ntries foreign to the United States whose duty it is to Issue to HP, as assignee of the entire right, title and interest, is) or improvement(s), including any and all Letters Patent of I granted on or as a result of the application aforesald, in t.
I/we further authorize and direct HP at application now identified by the attorney do shall have been made known to them by the	torneys to insert the serial number and filing date of said cket number and title set forth above as soon as the same United States Patent and Tradomark Office.
Inventor's Typed Name: James Andrew Davis	et my/our hand(s) and seal(s):
State of Virginia )  sounty of Richmond  Before me this 27 day of September 7001.	
	Hearl Ary Robertson  My commission expires:  09-30-01
ained from 44000000000 to 4400000 Crecite Bill Frontier Chanderd S	limal

#### FROM <u>LADAS & PARRY - L.</u> A. 13239340202

When recorded please return to:

HEWLETT-PACKARD COMPANY Intellectual Property Administration P. O. Box'272400 Fort Collins, Colorado 80527-2400 (WED) 4. 3'02 16:06/ST. 15:55/NO. 4800000311 P 34

PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432 -1

### ASSIGNMENT OF PATENT APPLICATION (cont.)

Date Application Signed:
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eared <u>David H. Mchityre</u> ence to be the person who acknowledged the forego
Notary Public
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Notary Public
My commission expires:
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d <u>Gadiel Serousel</u> who
d Gadiel Seroussi who acknowledged the foregoing to be the person who acknowledged the foregoing
Notary Public

(Use Page Three For Additional Inventor(s) Signature(s))

Page 2 of 3

When recorded please return to:

HEWLETT-PACKARD COMPANY Intellectual Property Administration P. O. Box 272400 Fort Collins, Colorado 80527-2400

#### (WED) 4. 3'02 16:06/ST. 15:55/NO. 4800000311 P 35

PATENT APPLICATION ATTORNEY DOCKET NO. \_\_10012432-1

## ASSIGNMENT OF PATENT APPLICATION (cont.)

Inventor's Signature (Seal)		Date Assignment Signed:
inventor's Typed Name: Kenneth K. Sn	orth	Date Application Signed
State of	)	
County of	) ss.: )	
Before me this day of	·	
is personally known or proved to me o	on the basis o	, personally appeared <u>Kenneth K. Smith</u> I satisfactory evidence to be the person who acknowledged the foregoin ed.
instrument of assignment to be his/her i	ree act and de	ed.
		Notary Public
		My commission expires:
Inventor's Signature (Seal)	·	Date Assignment Signed:
Inventor's Typed Name: Stewart R. Wyar	•	
State of		Date Application Signed
otate of	)	
County of	) ss.: )	
Before me this day of		
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instrument of assignment to be his/her fre	e act and deed	
		Notary Public
		My commission expires:
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wentor's Typed Name:		Date Application Signed
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Before me this day of		, personally appeared who
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		Notary Public

(WED) 4. 3'02 16:06/ST. 15:55/NO. 4800000311 P 36

PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432 -1

When recorded please return to.

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P O. Box 272400
Fort Collins, Colorado 80527-2400

#### ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD COMPANY, a Delaware corporation having its principal place of business in Palo Alto, California, (hereinafter HP), in furtherance of my/our obligations to HP, and do hereby assign and transfer to HP, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Letters Patent of the United States entitled:

Its successors and assigns, the entire right, under an application for Letters Patent of the	title and interest, including the right of priority, in, to and United States entitled:
Error Correction Coding And Decoding In A S	old-State Storage Doylce
Filing date: 25 July 2001	Application No.: 09/915,194
continuations-in-part (C-I-P's), divisionals, an Letters Patent, and any and all Letters Pate	) set forth therein, and any and all continuations, direnewals of and substitutes for sald application for sald ant of the United States and of countries foreign theretond any reissues, or reexaminations, or extensions of said
of the term or terms for which said Letters i	fications in my/our name for Letters Patent in any country, assigns, nominees or legal representatives, to the full end Patent respectively may be granted, reissued or extended, been held and enjoyed by me/us had this assignment, and
and that I/we have not executed and will n further covenant and agree that I/we will, if execute and deliver all such papers as mainvention(s) or improvement(s), said application nominees or legal representatives, and I/we a facts respecting said invention(s) or improvemin any legal proceedings, to sign all law continuations, C-I-P's, reissue and foreign appenerally to do everything possible to a representatives to obtain and enforce, for it	ve full right to convey the entire interest herein assigned, of execute any agreement in conflict herewith, and I/we each time a request is made, and without undue delay, y be necessary or desirable to perfect the title to said on and said Letters Patent, to HP, its successors, assigns, agree to communicate to HP, or to its nominee, all known nent(s), said application and said Letters Patent, to testify ful papers, to execute all disclaimers and divisionals, plications, to make all rightful oaths and declarations, and aid HP, its successors, assigns, nominees and legal is or their own benefit, proper patent protection for said countries provided the expenses which may be incurred by ince are paid by HP;
patents on applications as aforesaid, to issue any and all Letters Patent for said invention(s)	ne Commissioner of Patents and Trademarks of the United tries foreign to the United States whose duty it is to issue to HP, as assignee of the entire right, title and interest, or improvement(s), including any and all Letters Patent of granted on or as a result of the application aforesaid, in
I/we further authorize and direct HP atto application now identified by the altomey doc shall have been made known to them by the U	omeys to insert the serial number and filing date of said ket number and title set forth above as soon as the same Inited States Patent and Trademark Office.
IN WITNESS WHEREOF, I/we hereunto se	t my/our hand(s) and seal(s):
nventor's Signature (Seal)	_Date Assignment Signed:
nventor's Typed Name: James Andrew Davis	Date Application Stands
Total of	Date Application Signed:
) ss.: County of )	•
Before me this day of ps personally known or proved to me on the basis of satisatrument of assignment to be his/her free act and deed.	essonally appeared <u>lames Andrew Dayle</u> who lafactory evidence to be the person who acknowledged the foregoing
	Notary Public
	My commission expires:

Rev 08/01 (Assign)

(Usa Page Two For Additional Inventor(s) Signature(s))

Page 1 of 3

(WED) 4. 3'02 16:06/ST. 15:55/NO. 4800000311 P 37

PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432 -1

# When recommed stame refutilities. MEMBET T FACKASO COMPANY MEMBETA FROMB Administration P. C. Box 272490 For Compa. Octando 80527-2409

#### ASSIGNMENT OF PATENT APPLICATION (cont.)

IN WITHESS WHEREOF, I we hereunte	o set my/our hand(s) and seal(s):
Call mft	Date Assignment Signed: 23 Ochser 2001
Inventor's Signature (Seal)	
Inventor's Typed Name: David H. McIntyre	Date Application Signed: 23 October 2001
State of Idaha )	
County of Ada	99.:
Before me this day of	, personally appearedwho
is personally known or proved to me on the b instrument of assignment to be his/her free act	asia of satisfactory evidence to be the person who acknowledged the foregoing
	Notary Public
	My controlssion expires:
	<b>-</b>
Inventor's Signature (Seal)	Date Assignment Signed:
Inventor's Typed Name: Frederick A. Perner	Date Application Signed:
	Cara Application Signed.
State of )	s.:
County of	
Before me this day of is personally known or proved to me on the bainstrument of assignment to be his/her free act a	personally appeared <u>Frederick A. Perner</u> who sis of satisfactory evidence to be the person who acknowledged the foregoing and deed.
	Notary Public
	My commission expires:
Inventor's Signature (Seal)	Date Assignment Signed:
Inventor's Typed Name; Gadiel Seroussi	<b></b>
	Date Application Signed:
State of )	,
County of )	
Before me this day of is personally known or proved to me on the bas instrument of assignment to be his/her free act an	personally appeared <u>Gadiel Seroussi</u> who is of satisfactory evidence to be the person who acknowledged the foregoing dideed.
	Notary Public
	My commission expires:
(Use Page Three Fo	r Additional Inventor(s) Signalure(s)) Page 2 of 3

#### FROM LADAS & PARRY - L. A. 13239340202 Pyties recatore biomereturn to:

Pewlett Packard Combany Interstal Popert Admiceration P. O. Box 272800 Fort Collina Colorado 90527-2400

(WED) 4. 3'02 16:07/ST. 15:55/NO. 4800000311 P 38

PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432-1

#### ASSIGNMENT OF PATENT APPLICATION (cont.)

IN WITNESS WHEREOF, I we h	pereunto set my/our hand(s) and seal(s):	
Inventor's Signature (Seat)	Date Assignment Signed: 18 Oct '01	,
	10 0 1	nί
Inventor's Typed Name: Kenneth K. Sm	Date Application Signed 18 Oct (	<u> </u>
State of Idaho	}	
County of Ada	) ss.: )	
Before me this day of ts personally known or proved to me of instrument of assignment to be his/her f	personally appeared Kannetts K. Smith on the basis of satisfactory evidence to be the person who acknowledged the tree act and deed.	wi Zrzysie
	Notary Public My commission expires:	<del></del>
Inventor's Signature (Seal)	Date Assignment Signed: 22 October 2001	
Investoria Tourist Name Street & William	of the second se	<b>,</b>
Inventor's Typed Name: Stewart R. Wys	Date Application Signed DC Commer 200	
State of Idaha	Date Approach digited	<u> </u>
	) ) ss.: )	•
State of Idaha  County of Ada  Before me this day of	) ) ss.: ) personally appeared Stewart R. Wyatt  in the basis of satisfactory evidence to be the person who acknowledged the for	
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(Use Next Page For Additional Inventor(s) Signature(s))

Page 3 of 3

Per 00/01 (Assign2)

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P. O. Box 272400
Fort Collins, Colorado 80527-2400

#### (WED) 4. 3'02 16:07/ST. 15:55/NO. 4800000311 P 39

B-4257 618971-3

PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432 -1

#### ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD COMPANY, a Delaware corporation having its principal place of business in Palo Alto, California, (hereinafter HP), in furtherance of my/our obligations to HP, and do hereby assign and transfer to HP, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and

Filing date: 25 J	uly 2001	Application No.: 09/915,194
and the inventions-in-particular are	on(s) and improvement(s) art (C-I-P's), divisionals, and all letters Peter	set forth therein, and any and all continuations direnewals of and substitutes for said application for saint of the United States and of countries foreign theretaid any reissues, or reexaminations, or extensions of said
of the term or ten	ms for which said Letters P	ications in my/our name for Letters Patent in any country assigns, nominees or legal representatives, to the full end ratent respectively may be granted, reissued or extended been held and enjoyed by me/us had this assignment, and
further covenant a execute and deliving invention(s) or important and inventions or legal facts respecting sain any legal proceed to the continuations, C-I-generally to do representatives to invention(s) or important and delivers.	and agree that I/we will, ear all such papers as may rovement(s), said application representatives, and I/we agid invention(s) or improvem seedings, to sign all lawfors, reissue and foreign application and enforce for its obtain and enforce for its	re full right to convey the entire interest herein assigned, of execute any agreement in conflict herewith, and I/we each time a request is made, and without undue delay, be necessary or desirable to perfect the title to said in and said Letters Patent, to HP, its successors, assigns, gree to communicate to HP, or to its nominee, all known ent(s), said application and said Letters Patent, to testify ull papers, to execute all disclaimers and divisionals, lications, to make all rightful oaths and declarations, and delay the successors, assigns, nominees and legal or their own benefit, proper patent protection for said ountries provided the expenses which may be incurred by the expenses which may be incurred by the expenses of the expenses which may be incurred by the expenses which
patents on applicat any and all Letters I he United States v	ions as aforesaid, to issue	e Commissioner of Patents and Trademarks of the United ries foreign to the United States whose duty it is to issue to HP, as assignee of the entire right, title and interest, or improvement(s), including any and all Letters Patent of tranted on or as a result of the application aforesald, in
l/we further au application now idea shall have been mad	ithorize and direct HP attor ntifled by the attorney dock le known to them by the Un	meys to insert the serial number and tiling date of said et number and title set forth above as soon as the same itted States Patent and Trademark Office.
	HEREOF, I/we hereunto set	
ventor's Signature (Seal	<u></u>	Uste Assignment Signed;
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(Use Page Two For Additional Inventor(s) Signature(s))

Page 1 of 3

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Intellectual Property Administration
P. O. Box 272400
Fort Collins, Colorado 80527-2400

# PATENT APPLICATION ATTORNEY DOCKET NO. 10012432 -1

#### ASSIGNMENT OF PATENT APPLICATION (cont.)

		_Date Assignment Signed:
Inventor's Signature (Seal)		Town carallument adition:
Inventor's Typed Name: David H. McInt	уге	Date Application Signed:
State of	1	
County of	) ss.: )	
Before me this day of s personally known or proved to me o nstrument of assignment to be his/her fi	n the bless of gar	ersonally appeared David H. McInture will be stated by the person who acknowledged the foregoing and the person who acknowledged the foregoing the stated by the person who acknowledged the foregoing the stated by the person who acknowledged the foregoing the stated by the person who acknowledged the foregoing the stated by the person who acknowledged the foregoing the stated by the person who acknowledged the foregoing the stated by the person who acknowledged the foregoing the stated by the person who acknowledged the stated by the person who acknowledged the foregoing the stated by the person who acknowledged the stated by the stat
<i></i>	$\wedge$	Notary Public  My commission expires:
Medericle a. iventor's Signature (Sept)	Peiner	Date Assignment Signed: Supt 26, 2001  Date Application Signed: Supt, 26, 20
ventor's Typed Name: Frederick A. Perr	<u>ner</u>	Date Application Signed: Sept. 26, 20
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(Use Page Three For Additional Inventor(s) Signature(s))

Page 2 of 3

(WED) 4. 3'02 16:08/ST. 15:55/NO. 4800000311 P 41

When recorded please return to.
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION ATTORNEY DOCKET NO. 10012432-1

#### ASSIGNMENT OF PATENT APPLICATION (cont.)

IN WITNESS WHEREOF, I we hereunto set my/our hand(s) and seal(s): Date Assignment Signed: inventor's Signature (Seal) inventor's Typed Name: Kenneth K. Smith Date Application Signed State of ) 55.: County of day of , personally appeared <u>Kenneth K. Smith</u> is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed. Notary Public My commission expires: \_ Date Assignment Signed: Inventor's Signature (Seal) Inventor's Typed Name: Stewart R. Wyatt \_ Date Application Signed\_ State of ) ss.; County of Before me this \_day of\_ , personally appeared Stewart R. Wyatt is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed. Notary Public My commission expires: Date Assignment Signed; Inventor's Signature (Seal) inventor's Typed Name: \_ Date Application Signed\_ State of ) 85.: County of day of is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing , personally appeared \_ instrument of assignment to be his/her free act and deed. **Motory Public** My commission expired

(Use Next Page For Additional Inventor(s) Signature(s))

Page 3 of 3

When recorded please return to:

HEWLETT-PACKARD COMPANY Intellectual Property Administration P. O. Box 272400 Fort Collins, Colorado 80527-2400

#### (WED) 4. 3'02 16:08/ST. 15:55/NO. 4800000311 P 42 B-4257 618971-3

PATENT APPLICATION

ATTORNEY DOCKET NO. 10012432 -1

#### ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD COMPANY, a Delaware corporation having its principal place of business in Palo Alto, California, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Letters Patent of the United States entitled:

	ion for Letters Patent of the Coding And Decoding In A S	
Filing date: 25	July 2001	Application No.: 09/915,194
Letters Patent a	nd any and all takes a	) set forth therein, and any and all continuation of renewals of and substitutes for said application for sa ant of the United States and of countries foreign thereind any reissues, or reexaminations, or extensions of sa
Of the term or to	THE FOR Which and a list	ications in my/our name for Letters Patent in any country, assigns, nominees or legal representatives, to the full ereatent respectively may be granted, relsaued or extended been held and enjoyed by me/us had this assignment, and
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Patents on applica any and all Letters he United States	lons as aforesaid, to issue	e Commissioner of Patents and Trademarks of the United ries foreign to the United States whose duty it is to issue to HP, as assignee of the entire right, tille and interest, or improvement(s), including any and all Letters Patent of granted on or as a result of the application aforesaid, in
l/we further a pplication now ide hall have been ma	uthorize and direct HP atto ntified by the attorney dock de known to them by the Ur	rneys to insert the serial number and filing date of said let number and title set forth above as soon as the same nited States Patent and Trademark Office.
IN WITNESS W	HEREOF, I/we hereunto set	my/our hand(s) and seal(s):
ventor's Signature (Sea	n	Date Assignment Signed:
	James Andrew Davis	
ele of		Date Application Signed:
unty of	) ) \$5.:	~
Before me this	roved to me on the harte of notice	resonably appearedlames_Andrew_Daviswho factory evidence to be the person who acknowledged the foregoing
trument of assignment	to be his/her free act and deed.	evidence to be the person who acknowledged the foregoing
		Notary Rubbo
		My commission expires:

Rev 00/01 (Assign)

(Use Page Two For Additional Inventor(s) Signature(s))

Page 1 of 3

#### FROM LADAS <u>& PARRY</u> - L. A. 13239340202

When recorded please remm to:

HEWLETT PACKARD COMPANY Interective Properly Administration P. O. Box 272400 For Comps. Colorado 80527-2400

(WED) 4. 3'02 16:08/ST. 15:55/NO. 4800000311 P 43

PATENT APPLICATION ATTORNEY DOCKET NO. 10012432 -1

### ASSIGNMENT OF PATENT APPLICATION (cont.)

		Date Assignment Signed:	
Inventor's Signature (Seal)			
Inventor's Typed Name: David	H. McIntyre	Date Application Signed:	
State of	)		
County of	) ss.; }		
Bafore me this day of	·	personally appeared	
is personally known or proved instrument of assignment to be	to me on the basis of sa his/her free act and deed.	Devict H. Michityre Listactory evidence to be the person who acknowledge	ged the foregoing
•		Notary Public	
		My commission expires:	
nventor's Signature (Seal)		Date Assignment Signed:	
nventor's Typed Name: Frederic	k A. Perner	Date Application Signed:	
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(Use Page Three For Additional Inventor(s) Signature(s))

Page 2 of 3

When recorded please return to:
HEWLETT-PACKARO COMPANY
Intellatival Property Administration
P. O. Box 272400
Fort Collins, Celbrade 80527-2400

PATENT APPLICATION
ATTORNEY DOCKET NO. 10012432-1

#### ASSIGNMENT OF PATENT APPLICATION (cont.)

		Date Assignment Signed:
inventor's Signature (Seal)	,	
Inventor's Typed Name: Ken	neth K. Smith	Date Application Signed
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